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## NOTICE OF ALLOWANCE AND FEE(S) DUE

26096 7590 11/13/2009

CARLSON, GASKEY & OLDS, P.C.  
400 WEST MAPLE ROAD  
SUITE 350  
BIRMINGHAM, MI 48009

EXAMINER

ZARE, SCOTT A

ART UNIT

PAPER NUMBER

3687

DATE MAILED: 11/13/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/763,803

01/23/2004

Jihua Wang

67,097-043

5003

TITLE OF INVENTION: ROTABLE INVENTORY CALCULATION METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	02/16/2010

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

26096 7590 11/13/2009

**CARLSON, GASKEY & OLDS, P.C.**  
400 WEST MAPLE ROAD  
SUITE 350  
BIRMINGHAM, MI 48009

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,803	01/23/2004	Jihua Wang	67,097-043	5003

TITLE OF INVENTION: ROTABLE INVENTORY CALCULATION METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	02/16/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
ZARE, SCOTT A	3687	705-028000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,803	01/23/2004	Jihua Wang	67,097-043	5003
26096	7590	11/13/2009	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			ZARE, SCOTT A	
			ART UNIT	PAPER NUMBER
			3687	
DATE MAILED: 11/13/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1272 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1272 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Interview Summary</b>	<b>Application No.</b> 10/763,803	<b>Applicant(s)</b> WANG ET AL.	
	<b>Examiner</b> SCOTT A. ZARE	<b>Art Unit</b> 3687	

All participants (applicant, applicant's representative, PTO personnel):

(1) SCOTT A. ZARE. (3) \_\_\_\_.

(2) QUINCY HARRISON. (4) \_\_\_\_.

Date of Interview: 03 November 2009.

Type: a) ☒ Telephonic    b) ☐ Video Conference  
c) ☐ Personal [copy given to: 1) ☐ applicant    2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes    e) ☐ No.  
If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1 and 16-19.

Identification of prior art discussed: \_\_\_\_\_.

Agreement with respect to the claims f) ☒ was reached.    g) ☐ was not reached.    h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

	/Scott Zare/
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## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

#### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

#### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The Examiner suggested amendments to the claims which would put the case in condition for allowance. Specifically, the Examiner recommended a positive recitation of the "selecting the proposed inventory" step in claims 1 and 19 and further suggested either canceling claims 16-18 or amending claims 16-18 to recite method steps. Applicant suggested language for independent claims 1 and 19, and provided amendments to dependent claims 16-18 in which the Examiner agrees puts the case in condition for allowance.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/763,803	WANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	SCOTT A. ZARE	3687	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/21/0009.
2. ☒ The allowed claim(s) is/are 1,4-13 and 15-19.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date <u>11/03/2009</u>.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|---|--|

/Matthew S Gart/  
Supervisory Patent Examiner, Art Unit 3687





### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Quincy Harrison on 11/03/2009.

The application has been amended as follows:

### **AMENDMENT**

1. (Currently Amended) A method of optimizing rotatable inventory, comprising:  
interfacing a processor with a user interface, the user interface and the processor communicating with a computer having a computer readable storage medium including instructions for executing an algorithm to determine an optimized inventory level, the algorithm comprising the steps of:  
selecting a desired customer service level;  
obtaining at least one characteristic of a part repair lead-time distribution, wherein the at least one characteristic is a mean  $\mu$  and a variance  $\sigma$  of the part repair lead-time distribution;  
computing on the computer a proposed inventory level based on said at least one characteristic, wherein computing a proposed inventory level includes recomputing a probability term  $\beta$  having a distribution reflected by a difference term  $\Delta_{\beta}$  and

Art Unit: 3687

calculating the proposed inventory level as  $I = A \cdot (R - W) - \mu + \Delta_{\beta} \cdot \sigma$ , wherein  $I$  is the proposed inventory level,  $A$  is a part arrival value,  $R$  is a maximum repair time and  $W$  is a desired turnaround time window;

determining a calculated customer service level corresponding to the proposed inventory level;

comparing the calculated customer service level with the desired customer service level; and

selecting the proposed inventory level as the optimized inventory level if when the calculated customer service level is within a selected convergence threshold with respect to the desired customer service level.

2.-3. (Cancelled)

4. (Previously Presented) The method of claim 1, wherein the probability term  $\beta$  is bound by a left bound value BL and a right bound value BR, and wherein the method further comprises:

shifting the probability term  $\beta$  to the left bound value BL and defining a new probability term  $\beta$  between the left bound value BL and the right bound value BR if the calculated customer service level is less than the desired customer service level; and

shifting the probability term  $\beta$  to the right bound value BR and defining a new probability term  $\beta$  between the left bound value BL and the right bound value BR if the calculated customer service level is greater than the desired customer service level and

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if the difference between the calculated customer service level and the desired customer service level is greater than the selected convergence threshold.

5. (Original) The method of claim 4, further comprising repeating the computing, determining, comparing and shifting steps until the selecting step is executed.

6. (Original) The method of claim 1, further comprising repeating the computing, determining, and comparing steps until the selecting step is executed.

7. (Original) The method of claim 1, wherein the desired customer service level is a desired on-time delivery, and the calculated customer service level is a mean on-time delivery, wherein the desired on-time delivery and the mean on-time delivery are represented by a mean of a number of on-time delivered parts per time unit divided by a mean of arrivals per time unit.

8. (Original) The method of claim 7, wherein a number of arrivals per time unit is a constant number, and wherein the mean of arrivals per time unit is set equal to the constant number.

9. (Previously Presented) The method of claim 1, wherein the part arrival value is randomly variable.

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10. (Previously Presented) The method of claim 9, wherein the method further comprises:

obtaining an arrival value having a distribution  $G$  and an inventory value having a distribution  $\Phi$ ;

obtaining a distribution of the calculated customer service level based from the distributions  $G$  and  $\Phi$  ; and conducting the step of determining the calculated customer service level based on the distribution of the calculated customer service level.

11. (Original) The method of claim 9, wherein the method further comprises approximating the randomly variable number of arrivals per time unit with a constant number of arrivals per time unit.

12. (Previously Presented) The method of claim 1, wherein the method optimizes rotatable inventory for an asset having a plurality of individual parts, wherein the step of selecting the desired customer service level comprises selecting the desired customer service level for the plurality of individual parts, and wherein the method further comprises:

conducting the obtaining, computing, determining, comparing, and selecting steps to obtain the optimized inventory level for each of said plurality of parts;

summing the optimized inventory level for each of the plurality of individual parts to obtain a total optimized inventory level;

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calculating a total rotatable inventory cost from the total optimized inventory level;  
and  
minimizing the total rotatable inventory cost.

13. (Original) The method of claim 12, wherein the minimizing step is conducted via a constrained optimization process.

14. (Cancelled)

15. (Currently Amended) A method of maintaining an optimized rotatable inventory level, comprising:

determining an optimized inventory level, the determining step occurring on a computer having a computer readable storage medium storing instructions for:

selecting a desired customer service level;

obtaining at least one characteristic of a part repair lead-time distribution, wherein the at least one characteristic is a mean  $\mu$  and a variance  $\sigma$  of the part repair lead-time distribution;

computing on the computer a proposed inventory level based on said at least one characteristic, wherein computing a proposed inventory level includes recomputing a probability term  $\beta$  having a distribution reflected by a difference term  $\Delta_\beta$  and calculating the proposed inventory level as

$I = A \cdot (R - W) - \mu + \Delta_\beta \cdot \sigma$  , wherein  $I$  is the proposed inventory level,  $A$  is a

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part arrival value, R is a maximum repair time and W is a desired turnaround time window;

determining a calculated customer service level corresponding to the proposed inventory level;

comparing the calculated customer service level with the desired customer service level; and

selecting the proposed inventory level as the optimized inventory level if when the calculated customer service level is within a selected convergence threshold with respect to the desired customer service level; and

maintaining an inventory level responsive to said optimized inventory level.

16. (Currently Amended) The method of claim 15, further comprising interfacing with a user interface.

17. (Currently Amended) The method of claim 16, further comprising interfacing a processor ~~that interfaces~~ with the user interface to determine the optimized inventory level.

18. (Currently Amended) The method of claim 17, further comprising storing data in a memory ~~that stores data~~ to be used by the processor to determine the optimized inventory level.

19. (Currently Amended) A computer readable storage medium including a set of instructions that causes a computer to perform the following steps:

interfacing a user interface with a processor

storing data on a memory to be used by the processor to execute an algorithm;

executing the algorithm on the processor to determine an optimized inventory level, the algorithm comprising the steps of:

selecting a desired customer service level;

obtaining at least one characteristic of a part repair lead-time distribution,

wherein the at least one characteristic is a mean  $\mu$  and a variance  $\sigma$  of the part repair lead-time distribution;

using the computer readable storage medium on a computer to compute a proposed inventory level based on said at least one characteristic, wherein computing a proposed inventory level includes recomputing a probability term  $\beta$  having a distribution reflected by a difference term  $\Delta_{\beta}$  and calculating the proposed inventory level as

$I = A \cdot (R - W) - \mu + \Delta_{\beta} \cdot \sigma$ , wherein  $I$  is the proposed inventory level,  $A$  is a part

arrival value,  $R$  is a maximum repair time and  $W$  is a desired turnaround time window;

determining a calculated customer service level corresponding to the proposed inventory level;

comparing the calculated customer service level with the desired customer service level; and

selecting the proposed inventory level as the optimized inventory level if when the calculated customer service level is within a selected convergence threshold with respect to the desired customer service level.

### **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance:

Independent claims 1, 15, and 19, are directed toward a method and computer product which causes a computer to perform a method which includes a computing step using an equation which was derived by the Applicants, and based on the Applicants' current knowledge. See Applicant's Remarks, 12/15/2008. No publications were used as a source for the equation, and no known publications use this equation for the purpose of selecting a proposed inventory level as recited in each independent claim. *Yang*, the closest prior art reference of record, discloses an iterative method of determining optimal inventory for service parts based on a specified level of customer service, but fails to teach computing a proposed inventory level by recomputing a probability term and using the given equation. No other prior art or non-patent literature was found to cure this deficiency.

### ***Conclusion***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably



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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCOTT A. ZARE whose telephone number is (571)270-3266. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Gart can be reached on (571) 272-3955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Scott A. Zare  
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November 4, 2009